California Environmental Protection Agency AIR RESOURCES BOARD	DEUTZ AG	EXECUTIVE ORDER U-R-013-0331 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2010	ADZXL02.3048	2.290	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Mechanical Direct Injection, Turbocharger, Smoke Puff Limiter, Exhaust Gas Recirculation	Crane, Loaders, Tractor, Dozer, Pump, Compressor, Other Industrial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
37 ≤ kW < 56	Tier 4 Interim	STD	N/A	N/A	4.7	5.0	0.30	20	15	50
		CERT	--	--	4.3	1.5	0.16	11	4	21

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 11 day of January 2010.

Annette Hebert, Chief
Mobile Source Operations Division

[redacted]

Deutz AG
Nonroad CI

Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
ADZXL02.3048	C3UI45	TD2009L04	60.3@2800	43.2	26.8	180@1800	44.8	17.9	DDI, TC, EGR SPL
ADZXL02.3048	C3UI44,6	TD2009L04	59.8@2600	43.8	25.3	180@1800	44.8	17.9	DDI, TC, EGR
ADZXL02.3048	C3UI43,5	TD2009L04	58.3@2500	44.0	24.4	180@1800	44.8	17.9	DDI, TC, EGR
ADZXL02.3048	C3UI42,8	TD2009L04	57.3@2400	44.4	23.6	180@1800	44.8	17.9	DDI, TC, EGR
ADZXL02.3048	C3UI37	TD2009L04	50.2@2800	37.1	23.0	194@2100	50.3	23.4	DDI, TC, EGR
ADZXL02.3048	C3UI47,2	TD2009L04	63.2@2500	47.2	26.2	190@1800	47.1	18.8	DDI, TC, EGR
ADZXL02.3048	C3UI42	TD2009L04	56.3@2200	45.5	22.2	190@1800	47.1	18.8	DDI, TC, EGR
ADZXL02.3048	C3UI50	TD2009L04	67.0@2800	47.3	29.4	200@1800	49.2	19.6	DDI, TC, EGR
ADZXL02.3048	C3UI48,4	TD2009L04	64.9@2600	47.3	27.3	200@1800	49.2	19.6	DDI, TC, EGR
ADZXL02.3048	C3UI46,3	TD2009L04	62.0@2400	47.2	25.1	200@1800	49.2	19.6	DDI, TC, EGR
ADZXL02.3048	C3UI43,9	TD2009L04	58.8@2200	47.3	23.1	200@1800	49.2	19.6	DDI, TC, EGR

Attachment

EO # U-R-013-0331

12/24/2009